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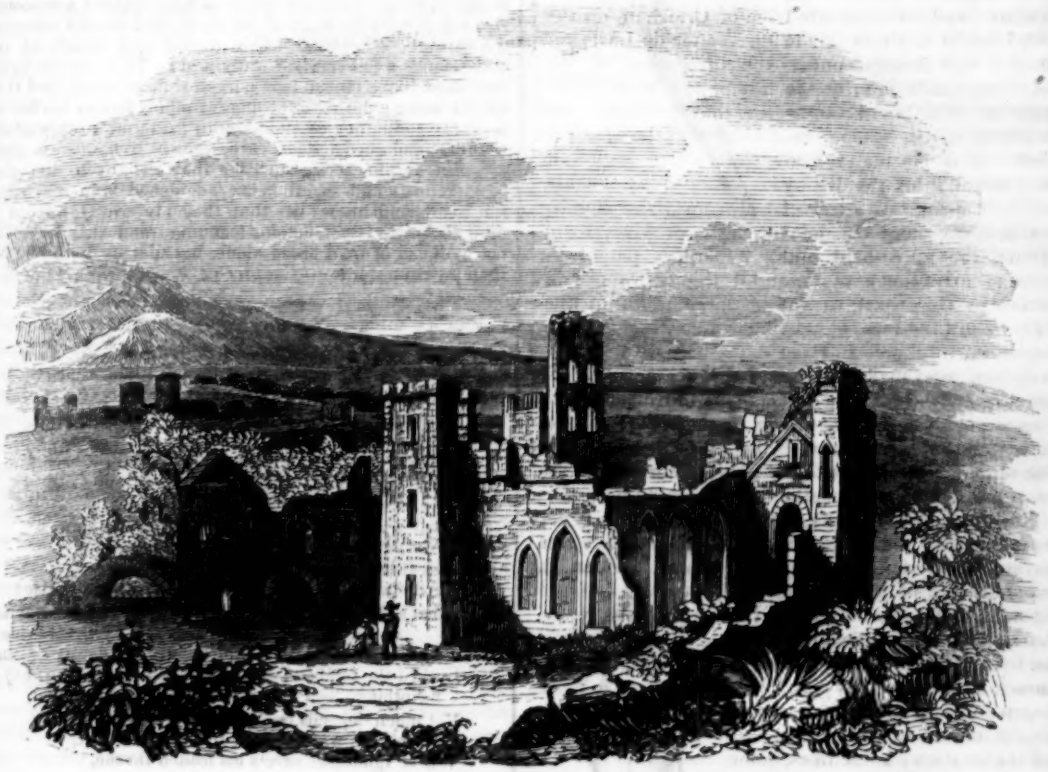
FORE ABBEY WESTMEATH.



RUINS OF FORE ABBEY, IN THE COUNTY OF WESTMEATH.

FORE, Foure, or Fowre, is an ancient corporate town in the parish of the same name, and the barony of Demifore, in the county of Westmeath, Leinster. It is a place of very trifling importance at the present day, though it sent two members to the Irish House of Commons up to the period of the Union. It is situated upon the north side of the hill or rising ground which interposes between it and Lough Lene. In a curious description of the county of Westmeath, written by Sir Henry Piers, Bart., in the latter part of the seventeenth century, and inserted in Vallancey's *Collectanea*, we have an account of the town of Trim at that period.

The town is said to have been anciently a town or university of literature, and that its name signifying in the Irish tongue, the town of books, and the mentioned lake (Lough Lene), the lake of learning, may seem to give countenance to this, as also an island in the said lake bearing the same name, which is said to have been the retiring place of the learned who taught here. But if this town were not a mart of learning, surely it was of devotion, there being in it no less than the ruins of three parish churches, more by two than the greatest and best town of our country hath, one monastery, one church or cell of an anchorite, the sole of the religious of this kind in Ireland."

Of this anchorite, Sir Henry Piers gives the following minute and amusing account:—

This religious person at his entry, maketh a vow never to go out of his doors all his life after, and accordingly here he remains, pent up all his days; every day he saith mass in his chapel, which also is part of, nay, almost all his dwelling-house, for there is no more house, but a very small castle, wherein a tall man can hardly stretch himself at length, if he laid down on the floor, nor is there any passage into the castle but through the chapel. He hath servants that attend him at his call in an out-house, but none lyeth within the church but himself. He is said by the natives, who hold him in great veneration for his sanctity, every day to dig, or rather scrape, for he useth no other tools but his nails, a portion of his grave; being esteemed of so great holiness, as if purity and sanctity were entailed on his cell, he is constantly visited by those of the Romish religion, who aim at being esteemed more devout than the ordinary amongst them; every visitant at his departure, leaveth his offering or (as they phrase it) devotion on his altar; but he relieth not on this only for a maintainance, but hath those to bring him in their devotion, whose devotions are not so fervent as to invite them to do the office in person; these are called his proctors, who range all the counties in Ireland, to beg for him, whom they call "the Holy Man in the Stone:" corn, eggs, geese, turkies, hens, sheep, money, and what not; nothing comes amiss, and nowhere do they fail altogether, but something is had, insomuch, that if his proctors deal honestly, nay, if they return him but the tenth part of what is given him, he may, doubtless, fare as well as any priest of them all; the only recreation this poor prisoner is capable of, is to walk on his terras built over the cell wherein he lies, if he may be said to walk, who cannot on one line stretch forth his legs four times

The ruins of which we have given a view in our engraving, are the spacious remains of a monastery in the valley, at the foot of the town. This was a priory of Canons Regular, built by St. Fechin, about the year 630; the founder died of the plague in 665, after having, as is said, ruled over three thousand monks in this Abbey. The annals of the Abbey make us acquainted with some particulars concerning the town. The records of the years 827, 870, 970, 1025, 1096, 1095, 1112, 1114, 1149, and 1169, are but a series of plunderings and burnings. In 1025, the "Ferman Fechin, or glebe lands of Fore, were plundered and burnt by the tribe of Criochan, on the eve of the nativity." In 1209, Walter de Lacie re-founded this Abbey, under the invocation of St. Taurin and St. Fechin, for monks of the order of St. Benedict, whom he brought for that purpose from the Abbey of St. Taurin, in Normandy; he made it a cell to that Norman Abbey, since which period it has generally been called the priory of St. Fechin and St. Taurin. We learn, also, from these annals, that in the year 1436, on the 26th of May, King Edward the Third laid a tax by letters patent, to continue for twenty years, on all things brought to market in this town, or within three miles of the same, or in the towns of Molingar and Multifernam, and within three miles of the same, also on all goods going out of the said towns,—for the purpose of raising a sum of money sufficient to defray the expense of paving the town, and to build a ditch or stone wall for the better security of His Majesty's English subjects against their Irish enemies, who had thrice burnt the said town to the ground.

This monastery presents a large pile of simple and unornamented masonry: the chapel is still in a tolerable state of preservation, and has three narrow-pointed windows. The valley in which this Abbey is placed, must, in the time of its prosperity, have been a delightful retreat; the outline is still good, and nothing is wanting but wood, to render it an attractive spot in modern days; the approach to it from the east was protected by a strong fort, of which the earthen mounds only remain.

Besides the ruins of this Abbey, there are still to be seen the remains of the three churches alluded to by Sir Henry Piers, in the extract already quoted.

One of these churches, (he says,) is called St. Fechin's, one of our Irish saints. The chief entrance into this church is at the west end, by a door about three feet broad and six feet high. This wall is hard upon, if not altogether, three feet thick; the lintel that traverseth the head of the door is of one entire stone of the full thickness, or near it, of the wall, and to the best of my rememberance, about six foot long, or perhaps more, and in height about two foot or more; having taken notice of it as the largest entire stone I had at any time observed, especially so high in any building, and discoursing of it with an ancient dweller in the town, I observed to him, that of old time they wanted not then engines even in this country for their structures; the gentleman smiling as at my mistake, told me, that the saint himself alone, without either engine or any help, placed the stone there, and thereon he proceeds in this formal story of the manner and occasion of it; he said, the workmen having hewn and fitted the stone in its dimensions, and made a shift with much ado to tumble it to the foot of the wall, they assayed with their joint forces to raise it, but after much toil and loss of time, they could not get it done. At last they resolved to go and refresh themselves, and after breakfast to make another attempt at it; the saint also, for as the story goes he was then living and present, advised them so to do, and tells them he would tarry till their return; when they returned, behold they find the stone placed exactly as to this day it remains, over the door. This was done, as the tradition goes, by the saint alone; a work, for my part, I believe impossible to be done by the strength of so many hands only as can immediately apply their force unto it: however, I assure you this story in that formality related, is infinitely believed by a generation credulous enough, and who boast of miracles, and adhere to tradition how unlikely soever it be, if it seem to set but the least gloss or varnish on that religion, or the relatives thereof that they so tenaciously adhere to.

PASSING GENERATIONS.

"The deaths of some, and the marriages of others," says Cowper, "make a new world of it every thirty years. Within that space of time, the majority are displaced, and a new generation has succeeded. Here and there one is permitted to stay longer, that there may not be wanting a few grave dons like myself to make the observation."

> Man is a self-survivor every year;
> Man like a stream is in perpetual flow.
> Death's a destroyer of quotidian prey:
> My youth, my noontide his, my yesterday;
> The bold invader shares the present hour,
> Each moment on the former shuts the grave.
> While man is growing, life is in decrease,
> And cradles rock us nearer to the tomb.
> Our birth is nothing, but our death begun,
> As tapers waste that instant they take fire.—Young.

Yet, infinitely short as the term of human life is, when compared with time to come, it is not so in relation to time past. An hundred and forty of our own generations carry us back to the Deluge, and nine more of ante-diluvian measure to the Creation, —which to us is the beginning of time; "for time itself is but a novelty, a late and upstart thing in respect of the ancient of days *." They who remember their grandfather, and see their grandchildren, have seen persons belonging to five out of that number, and he who attains the age of threescore has seen two generations pass away. "The created world," says Sir Thomas Browne, "is but a small parenthesis in eternity, and a short interposition, for a time, between such a state of duration as was before it, and may be after it." There is no time of life, after we become capable of reflection, in which the world to come must not to any considerate mind appear of more importance to us than this; no time in which we have not a greater stake there. When we reach the threshold of old age, all objects of our early affections have gone before us, and in the common course of mortality a great proportion of the later. Not without reason, did the wise compilers of our admirable liturgy place next in order after the form of matrimony, the services for the visitation and communion of the sick, and for the burial of the dead.—*The Doctor.*

* Dr. S. Johnson.

There is music wherever there is harmony, order, or proportion; and thus far we may maintain the music of the spheres; for those well-ordered motions, and regular paces, though they give no sound unto the ear, yet to the understanding they strike a note most full of harmony. Whosoever is harmonically composed, delights in the harmony of sounds; which makes me much distrust the symmetry of those heads which declaim against all church-music. For myself, not only from my obedience, but my particular genius, I do embrace it; for even that vulgar and tavern music, which makes one merry, another mad, strikes in me a deep fit of devotion and profound contemplation of the first composer; there is something in it of divinity more than the ear discovers. I will not say with Plato, the soul is an harmony, but harmonical, and hath its nearest sympathy unto music; thus some whose temper of body agrees, and humours the constitution of their souls, are born poets, though indeed all are naturally inclined unto rhyme.—Sir Thomas Brown.

Time cures every wound, and though the scar may remain and occasionally ache, yet the earliest agony of its recent infliction is felt no more.—Sir Walter Scott.

ILLUSTRATIONS OF THE BIBLE FROM THE MONUMENTS OF ANTIQUITY.

No. I

INTRODUCTORY REMARKS. ILLUSTRATIONS PREVIOUS TO THE CALL OF ABRAM.

FROM the earliest ages, monuments have been erected to commemorate remarkable events: when Jacob made a league with his father-in-law Laban, he "took a stone, and set it up for a pillar; and he said unto his brethren, Gather stones, and they took stones, and made an heap." (Gen. xxxi. 45, 46.) It was soon discovered that simple tradition was insufficient to preserve the meaning of these memorials, and those by whom they were erected carved upon the stones some image or picture by which the event might be known; the picture was subsequently changed for an inscription, and that this practice was very ancient, appears from the words of the patriarch Job, "Oh that my words were now written....That they were graven with an iron pen and lead in the rock for ever!" (Job xix. 23, 24.) It is evident that such monuments possess great historical value; they are not so liable to accidents as books and manuscripts, they are easily understood, and generally known. But such monuments will not by themselves form a history, because they only record a single event without taking any notice of its causes or its consequences. They are rather evidences by which the truth or falsehood of a written history may be determined. Thus, a history of England which denied the fact of the great fire of London, would be convicted of falsehood by the monumental column which commemorates that calamity; and the truth of the accounts given of the Knights Templars in England, their armour, their dress, and their high rank, is proved by their effigies in the Temple Church. The remains of the Roman palace discovered at Bignor, in Sussex, show that the arts of Rome were introduced into Britain at the same time as her arms, and that this island had attained a high degree of civilization previous to the invasion of the Saxons. In general, the more ancient any history is, the fewer are the monuments by which we can estimate its truth; but there is one important exception,—the Bible. Though far the most ancient record of transactions in the world, its veracity is established by countless monuments in different lands, and the researches of modern travellers daily add fresh confirmations to its important truths.

This is especially shown by the recent discoveries in Egyptian antiquity. No other nation has entered so minutely into details on its monuments as the Egyptians; they have left us accurate representations of public events, private occupations, and domestic manners. Wars, battles, and sieges; the mustering and divisions of the army, the triumphal processions that rewarded the victors, the miserable fate that awaited the captives; in peace, we see the religious ceremonies of the priests, the gorgeous pomp of the court, the amusements of the people, and even the games of the children. Every detail of horticulture and agriculture is depicted faithfully in the tombs; all the occupations of life are represented in the chambers of death.

The book of Job is one of the most ancient compositions in the world: the best critics have agreed that it was written before the age of Moses, and some eastern traditions make the patriarchal model of patience a contemporary with Abraham. But ancient as it is, the passage we have already quoted shows that monumental records existed previously, and perpetuated the memory of remarkable events. The tombs and temples of Egypt, recently made public by the discoveries of enterprising travellers, are probably more ancient than any other edifices in the world. We have every reason to believe that many of them existed in the days of Moses, perhaps even in the time of Abraham; and we shall find as we proceed, striking proofs that the Jewish legislator saw and comprehended the symbolic representations on the walls of the Pharaohs, which now offer mysteries that cannot be interpreted. We may, therefore, reasonably expect to find singular confirmations of Scripture truth, in an examination of the monuments contemporary with the sacred historian. The paintings and the sculptures on which he gazed are also offered to our view; the customs and manners which he described in words, Egyptian artists depicted in the very same age. After the lapse of three thousand years, we are enabled to compare two contemporary records so different in their nature, that there can be no ground for suspecting one to be derived from the other, and we can demonstrate the historical verity of the Pentateuch, not only by undesigned coincidence, but by the testimony of a hostile and persecuting people.

But these monuments not only illustrate the accounts given of Egypt by the writers of the Old Testament; they serve also to explain many peculiarities in the social condition of the chosen people of God. The connexion between them began in the days of Abraham, who visited Egypt, and found there a settled government, with the head of which he entered into terms of friendly relationship; the Israelites were brought into closer union with the Egyptians when they colonized the land of Goshen, during the administration of Joseph; they shared the slavery and degradation of that people when an intrusive dynasty tyrannized over the land, and "another king arose who knew not Joseph." Moses, who was "learned in all the wisdom of the Egyptians," undoubtedly adopted many of their usages when he prepared the civil code of laws for the people over whom God had placed him as a leader and a legislator; finally, this connexion was maintained through various alternations of war and peace, until the Egyptian power in Asia was overthrown by the Assyrians.

It was a very ancient tradition in the East, that pillars were erected before the Deluge by some of the antediluvian patriarchs, and that they were not destroyed by the awful catastrophe of the Flood. It is, indeed, improbable that tradition alone could have preserved so many particulars of the primeval innocence of man, his residence in Paradise, his temptation, and his fall, as we find among all ancient nations, unless some such memorials had existed. Even the means by which man was seduced from his allegiance, the temptation of the serpent, are more or less distinctly shown in the mythology of every ancient nation. The craft of the serpent, its enmity to the human race, its representation of an evil principle possessing extraordinary power and malignity, are found among the articles of popular belief in every nation possessing ancient records, from China to Peru. The fact that religious worship was offered to an animal so repulsive in its form, and so malignant in its nature, can only be explained by their ancestors having preserved the memory of the evil which Satan, disguised in that form, had inflicted on the human race.

Among the Egyptian monuments, we find one representation of an interview between a woman and a serpent, which immediately suggests to us the circumstance of Eve's temptation. The artist has

managed to give the animal such a look of intelligence, as fully to justify the proverbial expression,—"Be ye wise as serpents;" and the horror depicted on the woman's countenance may be supposed to arise as much from the sinfulness of the proposal made to her by the tempter, as from the singularity of an animal being endowed with the power of speech.

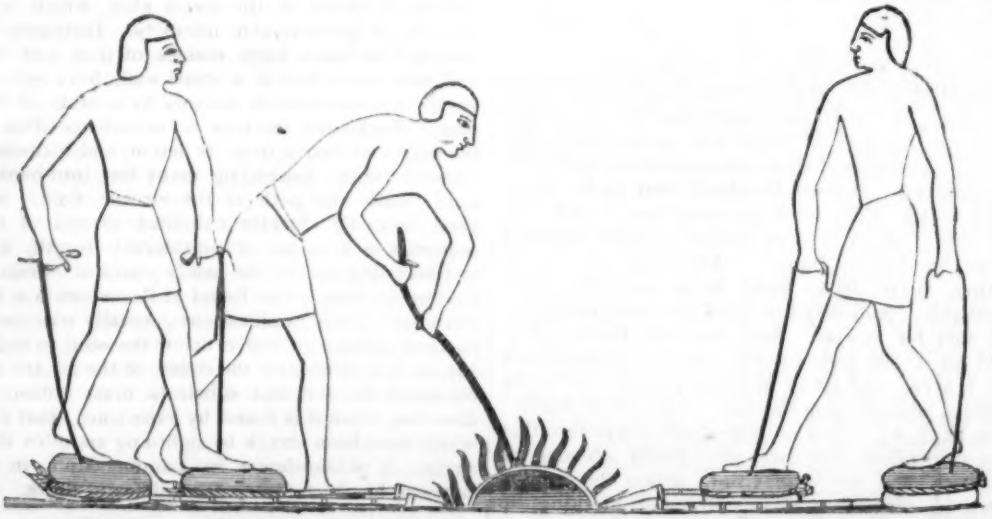
From the Egyptian monuments, also, we obtain a confirmation of the Scriptural account of the early discovery of some of the arts necessary in social life. In the Book of Genesis, three very important discoveries are attributed to the sons of Lamech: the first is the pasturage of cattle by wandering shepherds. "Jabal was the father of such as dwell in tents, and have cattle." (Gen iv. 20.) It has always been the custom in the East to call a man "the father" of any thing or circumstance for which he was remarkable; thus, one of Mohammed's companions was named Abu-Horeira, that is, "the father of a cat," on account of his partiality to that animal. Jabal is called "father" here, in the sense of inventor or teacher, and the passage means that he was the first to adopt a nomade life. Hence, also, it follows that men had stationary habitations before they began to use tents or moveable dwellings; for Cain "builded a city, and called the name of the city after the name of his son Enoch," (Gen. iv. 17;) whereas tents were not used until the seventh generation from Adam. This singular fact, so different from what profane writers usually relate about the progress of society, is confirmed by the Egyptian monuments. On the most ancient of them, we find numerous representations of houses and fortresses, but tents or tabernacles are exceedingly rare,—a clear proof that their use does not belong to the first stages of human advancement.

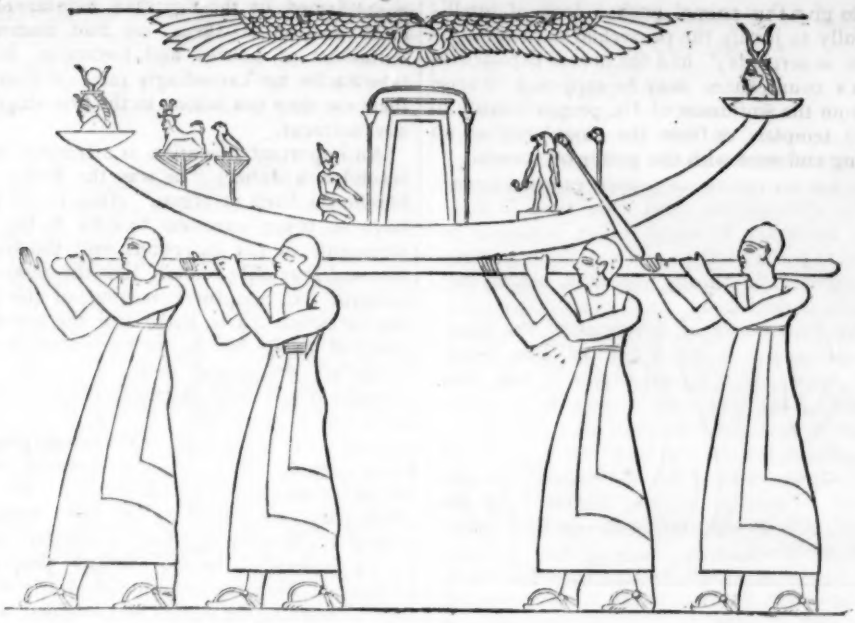
An important invention is attributed to Lamech's second son Jubal; "he was the father of such as handle the harp or organ." (Gen. iv. 21.) We shall have so many occasions to refer to the musical instruments of the Egyptians and the Israelites, that we need here only remark that the monuments fully confirm the Scriptural account of the antiquity of the invention. The harp, and the *ougab*, or pipe of unequal reeds, which our translators have rendered "organ," are found depicted on the tombs and temples which bear the most unquestionable marks of a very ancient date.

Still more remarkable is the acount given of Tubal-Cain: he is called "an instructer of every artificer in brass and iron." (Gen. iv. 22.) We must in the first place remark that the word translated "instructer," literally signifies "a whetter," and that the word rendered "brass," means properly "native copper." Now the monuments clearly show that the art of working in metals had attained a high degree of perfection at a very early period.

The accompanying engraving exhibits the furnace or forge used by the Egyptians. The double bellows worked by the alternate pressure of the feet, and inflated by raising the top with a rope held in the hands, does not differ materially from those used in small smelting operations of the present day. From the use of the word "whetter," it appears that the sacred historian decribes forging as a more ancient process than casting, and this is amply confirmed by the monuments on which the former employment is common, and the latter rare. The order of the words also intimates that copper-works were more common than iron, which is quite in accordance with the acknowledged fact that the latter metal is rarely found in its native state. From the monuments, it is evident that most, if not all, of the Egyptian weapons, tools, and utensils, were formed of copper, for they are painted of the greenish colour which copper assumes, when it becomes oxidized by exposure to the air.

The traces of the traditions respecting the general Deluge, must next engage our attention; and the peculiar nature of the monuments themselves seems





to bear strong testimony to that awful event. The most ancient of these records are deeply carved, and destitute of colour, as if to save them from the destructive agency of water: they are literally "graven with an iron pen in the rock for ever." But more direct references are found on the monuments; we see a sacred ship or ark borne in religious processions, accompanied by several symbols of life and preservation, especially the winged globe, which gives so lively an image of providential protection, that it seems to have been derived from the maternal care of the female bird, hiding the callow young under "the shadow of her wings."

The notion usually formed of the ark is, that it resembled a large ship; but the Scripture represents it as an enormous wooden box or house, of an oblong form, divided into three stories. It was only necessary that it should float; no purpose could be served by its being made fit for performing voyages from place to place. In the engraving we see that such an oblong box or ark is placed in one of the light boats of the Nile, a clear proof that it is designed to float upon water.

The erection of the Tower of Babel, proved by its existing remains, is confirmed by the monuments of Egypt. Whatever other object may have been contemplated by the builders of the pyramids, there is no doubt that they were anxious to perpetuate their own glory. In both cases, vanity has met its punishment: the builders of Babel were miraculously dispersed; the names of those who erected the pyramids are unknown. It must be added, that, in the upper valley of the Nile, brick pyramids are found, the materials of which are very similar to those employed by the builders of Babel. "And they said one to another, Go to, let us make brick, and burn them thoroughly. And they had brick for stone, and slime had they for mortar. And they said, Go to, let us build us a city and a tower, whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth." (Gen. xi. 3, 4.) It is no improbable conjecture that these stupendous structures were partly intended for treasuries, and hence may have arisen the caution shown in concealing their entrances, blocking up their interior galleries, and hiding their secret chambers. Among the labours imposed on the Israelites by Pharaoh, we find special mention made of the "treasure-cities, Pithom and Raamses." (Exodus i. 11.) From the monuments we find that the Pharaohs received vast quantities of the precious metals in tribute, and the conservation of their treasures must consequently have been a matter of difficulty and importance.

THE FORCE OF LIGHTNING.

A PERSON may be killed by lightning, although the explosion takes place at the distance of twenty miles, by what is called the back-stroke. Suppose that the two extremities of a cloud, highly charged with electricity, hang down towards the earth, they will repel the electricity from the earth's surface, if it be of the same kind with their own, and will attract the other kind; and if a discharge should suddenly take place at one end of the cloud, the equilibrium will instantly be restored by a flash at that point of the earth which is under the other. Though the back-stroke is often sufficiently powerful to destroy life, it is never so terrible in its effects as the direct shot, which is frequently of inconceivable intensity. Instances have occurred in which large masses of iron and stone, and even many feet of a stone wall, have been conveyed to a considerable distance by a stroke of lightning. Rocks and the tops of mountains often bear the marks of fusion from its action, and occasionally vitreous tubes, descending many feet into banks of sand, mark the path of the electric fluid. Some years ago, Dr. Fielder exhibited several of these fulgorites in London, of considerable length, which had been dug out of the sandy plains of Silesia and Eastern Prussia. One found at Paderborn was forty feet long. Their ramifications generally terminate in pools or springs of water below the sand, which are supposed to determine the course of the electric fluid. No doubt the soil and substrata must influence its direction, since it is found by experience, that places which have been struck by lightning are often struck again. A school-house in Lammer-Muir, in East Lothian, has been struck three different times.

[MRS. SOMERVILLE'S *Connexion of the Sciences.*]

CARBONIC ACID.

No. II.

Fermentation has, in a former paper, been mentioned as a productive source of Carbonic Acid; a fact so well understood in breweries and distilleries, that the workmen never venture into a fresh-emptied vat, until it has for several days been exposed to the action of the atmosphere; and even then it is, in most cases, necessary to adopt other measures in order to ensure perfect saftey. When these precautions are forgotten, or wilfully neglected, health, and sometimes life, is sacrificed.

During the first stages of fermentation the quantity of gas disengaged is much greater than at any subsequent period. If a lighted candle be held over a large vessel containing malt liquor in an active state of fermentation, the flame will be instantly extinguished; and if we put our face near to the inner edge of the vessel, so as to inhale a little of the gas, its effect will be similar to that produced by the application of very strong ammonia, (spirit of hartshorn) to the nostrils.

Carbonic Acid is absorbed by liquids, imparting to them the agreeable flavour, which in malt liquors, cider, wine, and a variety of other beverages, is associated with *briskness*. By exposure to the air a great portion of the gas escapes, and by its loss the liquor becomes, what is termed, stale, or flat. The exhilarating effects of spring-water are almost entirely due to the presence of Carbonic Acid; for when that has been expelled by boiling, the water becomes vapid and tasteless, and it ceases to sparkle on being poured from one vessel to another. There is, however, a considerable difference with respect to spring-water and fermented liquors. In the former instance, the greater part of the Carbonic Acid present is absorbed from the atmosphere, whither it has no tendency to return so long as the temperature of the water remains constant. When the temperature is increased, the gas escapes, and the earthy matter with which it is usually combined, (most commonly lime,) is precipitated. Hence it is, that the water from a deep well which has been standing all night in a bed-room, especially in warm weather, is less refreshing than when recently drawn from its source. Under these circumstances it may also be remarked, that the bottle containing the water will become coated with a thin film of white earthy matter, which is carbonate of lime deposited as above mentioned.

In fermented liquors, whether in casks or bottles, Carbonic Acid is generated spontaneously; the fermentative process continuing in operation for many years, and constituting what is denominated *ripening*. The less perfectly the liquor has been fermented in the first process of its manufacture, the more abundantly will Carbonic Acid be formed afterwards; and its formation is accelerated by sudden elevations of temperature. As familiar examples we may mention ginger-beer, and ale, or porter. Ginger-beer is so imperfectly fermented, that by proper management it may be rendered fit for use in a few hours after it has been bottled. Ale and porter, on the contrary, require several weeks, and if they have been a long time in casks, many months, to bring them to maturity in bottles. It is true the process may be hastened by putting the bottles in a warm situation, but this can only be done at the risk of losing the liquor, as well as the bottles which contain it. So sensitive are malt liquors to any sudden changes of temperature, that we have known instances of many hundred bottles of ale and porter bursting in one night.

The effervescing quality of champagne and other sparkling wines, is due to the slow fermentation which takes place in them after they are bottled. A similar process goes on whilst these wines remain in casks; but the excess of Carbonic Acid is in this case permitted to escape, otherwise its pressure would burst the casks.

Recently boiled water, in a state of repose, will absorb its own volume of Carbonic Acid gas; but this must be understood as applying only to ordinary temperature and pressure. When the water is briskly agitated in contact with the gas, the latter is absorbed more rapidly, and if at the same time the pressure is increased, the quantity of gas taken up is in exact proportion to the pressure employed. Thus,—if a gallon of water will absorb an equal quantity of gas at the mean pressure of the atmosphere, under a pressure of two atmospheres it dissolves two gallons, and so on in proportion for every other increase of pressure. A knowledge of this fact enables the manufacturers of soda-water, and other artificial waters, to conduct their operations with safety, and on uniform principles; for otherwise, the use of glass bottles would be attended with great danger. We have already shown that the origin of Carbonic Acid in fermented liquors is to be traced to a natural process. With artificial waters it is otherwise. In the manufacture of soda-water, for instance, the requisite quantity of soda is added to a certain quantity of water contained in a strong vessel,—the Carbonic Acid gas, which has been separately prepared, is then pumped into the vessel, and the water briskly agitated. When a proper quantity of gas has been absorbed, the water is bottled, and it is immediately fit for use. The corks are fastened down with wire as the only means of resisting the pressure of the gas within the bottle, which is, in general, equal to about five atmospheres. Effervescing lemonade is prepared in precisely the same way as medicinal waters, excepting, of course, the flavouring ingredients.

There is a property possessed by effervescing beverages, which we believe is not much regarded, although it is one of their chief recommendations. We allude to their *coldness*, an effect produced by the rapid escape of gas, and its sudden transition from what may be termed a liquid, to the gaseous state. We know not how to illustrate this more forcibly than by a reference to the effect of ether, or strong spirits of wine, when dropped upon the back of the hand. A sensation of extreme coldness is immediately experienced as a consequence of the rapid evaporation of the liquid; and this is precisely what happens in the case under consideration. The gas which had been previously held in solution by the water regains its liberty; and as heat is essential to its resumption of the gaseous form, that heat is supplied by the water, whose temperature is thereby reduced very much below what it was before the cork was drawn.

Having mentioned artificial mineral-waters, it is right that we should say a few words about those which are the result of natural processes, and which the former are intended to imitate. The term mineral-water is applied to spring-water holding in solution certain ingredients which render it unfit for domestic purposes, and at the same time impart to it some specific property which operates more or less powerfully on the animal system. There are many justly celebrated mineral-springs in Great Britain, as there are also in other parts of the world. Among the latter, those of Germany are in very high repute, and it is in imitation of their products that medicinal waters are manufactured in this country. When the operations are conducted by skilful men, the waters

thus obtained are equal in every respect to those imported from the original springs. Mineral-waters are for the most part strongly impregnated with Carbonic Acid. In some instances, as much as one hundred and sixty cubic inches of gas exist in one hundred cubic of water. This imparts to them their pleasant acidulous flavour, whilst it is not less important as respects its salutary effects upon the system generally. It is well deserving of remark, that although Carbonic Acid, as we have already mentioned, is destructive of life when permitted to pass into the lungs, even in a very diluted state, its effects when taken into the stomach are decidedly beneficial. Let it be noticed, however, that it is improper to take soda-water, or, indeed, any other carbonated water, at the commencement, or during the progress of a hearty meal. Under such circumstances it tends to repress the energies of the digestive functions, rather than assist them.

All carbonated waters should be kept in cool situations, especially in Summer; and the more uniform their temperature, the longer will they continue good. The same caution should be observed in reference to fermented liquors. We remember very lately to have seen an account of an accident occasioned by the bursting of a cask of Seltzer water, at Paris. We are not sure whether the person who was standing near the cask, and to whom it belonged, was not killed by the concussion. If this was not the result, his life was placed in imminent peril, and it is somewhat remarkable that the same individual had been wounded twice before, by explosions of bottles of the same kind of water. The accident alluded to above, was the consequence of leaving the cask in an exposed situation during warm weather.

All inflammable substances which contain carbon, (charcoal,) yield Carbonic Acid by combustion; and hence we never kindle a fire, whether it be of wood, charcoal, peat, coke, or coal, nor do we obtain artificial light, be it from tallow, oil, wax, or gas, without producing it; the quantity bearing some relation to the elementary constitution of the substances employed. Combustion is a subject which, under one form or another, presents itself to our notice in every department of scientific research. It occupies a conspicuous place among the every-day transactions of life; nor is it less important in the more complicated processes which minister to our necessities in a thousand different forms. Were we only to glance at some of the most ordinary operations which are conducted through the agency of fire, we should occupy entire sheets of our magazine. In former volumes there have been frequent allusions to this part of the phenomena of natural objects. A vast deal yet remains to be said.

Notwithstanding the immense quantity of Carbonic Acid gas which daily ascends from the surface of the earth, there is no actual increase in its proportions. We have before stated that it is always found as forming a part of the atmosphere, slightly varying in its proportions under the influence of climate, situation, and the changes of the weather, and of the seasons. But whether we collect and examine a portion of atmospheric air in the midst of a thickly-populated city, or at the mountain-top, the difference in its constitution is so trifling, that it is inappreciable to the senses, and can only be detected by the most careful and rigid experiments. We do well to contemplate the WISDOM and GOODNESS so significantly portrayed in all the arrangements of Providence. In no one instance are these attributes more apparent, than in the provision which has been made for withdrawing from the atmosphere those gases, whose excessive accumulation would be inimical to the enjoyment, or unfavourable to the existence, of animated beings. This must furnish us with an interesting topic to discourse upon in our next paper.

CASE OF SOMNAMBULISM.

A WOMAN was much addicted to talking in her sleep, and, after some observation, it was discovered that, in doing so, she went over all the transactions of the preceding day; everything, especially, that she had herself said, was distinctly repeated in the order in which she had spoken it. In general she commenced immediately after she had fallen asleep, and began by repeating the first words she had spoken in the morning, and then went through the other conversation of the day, adapting her tone and manner to the real occurrences. Thus, whether she had called aloud to a person at a distance, or whispered something which she did not wish to be overheard,—whether she had laughed or sung, everything was repeated in the order, and in the tone of voice, in which it had actually occurred. In repeating conversations with others, she regularly left intervals in her discourse corresponding to the period when the other party was supposed to be replying; and she also left intervals between different conversations, shorter in reality, but corresponding in relative length to the intervals which had in fact taken place. Thus, if she had been for two hours without conversing with any other person, the interval in her nocturnal conversation was about ten minutes. In this manner she generally required about two hours to rehearse the occurrences of the day. She was scarcely ever known to repeat anything she had read, but she occasionally repeated psalms, as if she had been teaching them to a child, and she repeated them more correctly than she could do when awake.

She exhibited also the more common characters of somnambulism, frequently rising in her sleep, pursuing her ordinary occupations in the kitchen, and even out of doors. On one occasion she awoke in the act of mounting a horse at the stable-door, and at another time was roused by spraining her ancle, while cutting grass in a ditch at some distance from the house. These occupations were observed to have a relation to her engagements during the day, being either a repetition of something she had done, or the accomplishment of what she had intended to do, but had been prevented from performing; and sometimes it appeared to be something which she meant to do at the earliest hour on the following day.

These peculiarities had been matter of interesting observation for a considerable time, when she at length fell into a state of continued unconsciousness to external things, which went on for three days, during which time she attended to all her usual occupations. This began on a Sunday, and continued to the Wednesday. On that day her master met her returning from an outhouse, carrying a number of eggs, when he determined to attempt rousing her by shouting loudly in her ear. On his doing so she awoke as from a sleep, and spoke to him sensibly, but could give no account of the eggs, and could scarcely be persuaded that the day was not Sunday. In an hour she relapsed into the unconscious state, and was again roused in the same manner; but, after some further experiments, this expedient failed, in consequence of which she was taken to her parents, and did not recover entirely for several weeks; after this her former peculiarities became less remarkable, and gradually ceased.

[ABERCROMBIE *on the Intellectual Powers.*]

THE BANK OF HAPPINESS.

You say, my friend, throughout the year,
Something still seems my heart to cheer,
That, though beneath misfortune's stroke,
More like the willow than the oak,
It oft has been my fate to bend,
Yet, should one cheering beam descend,
Unharmed again I raise my head,
And round a soothing shadow spread;
That, though in deep retirement placed,
With but few marks of fashion graced,
Content is there—my house looks gay,
And those who call incline to stay!
The source of this, I now confess,
Is a rich treasure I possess;
Say—do you wish to own the prize?
Seems it of value in your eyes?
Behold the plan you must pursue—
Study—and if you please—review!
Whilst still a child, a thought arose,
That Sorrow and Mankind were foes!
And so, her influence to repress,
I oped a Bank of Happiness!
For Happiness? the thought was strange!
Did any there their drafts exchange?
The plan, no doubt, was new and rare—
Did any place their treasure there?
Yes!—there was treasure—ample store,
Placed by the wealthy and the poor;
The king has sent it from his throne,
The beggar made it more my own;
The dog, the bird, the wandering bee,
The blossoms blushing on the tree,
The sportive lambs, which gaily played,
The dams reposing 'neath the shade,
The foal that 'midst the daisies lies,
The sportive dance of Summer flies,
The "milky mothers," standing cool
'Mid the o'ershaded crystal pool,
The labouring steeds, turned out to graze,
The feathered choirs' melodious lays,
The jocund sound of harvest horn,
As in is borne the ripened corn;
The loaded groups of gleaners gay,
At eve pursuing home their way;
And when frost's influence keen was found,
And snow lay deep and thick around,
The sheltered homestead, snug and warm,
Filled with the tenants of the farm;
The sprightly robin's lively note,
Which swelled in gratitude his throat;
The genial hearth's enlivening blaze,
The oft-told tales of ancient days,
The deep discourse of lofty minds,
The thoughts which music's spell unbinds,
Wealth's costly sports, its pleasures gay,
The peasant's rustic holiday,
The placid brow of reverend age,
As bending o'er the sacred page;
The hopes of manhood—its success,
Its plans, its hazards, its address;
The glowing thoughts of early youth,
Its feelings warm, its artless truth;
And childhood's prattle wild and free,
Its guileless sports, its harmless glee—
From all that's good, or fair, or kind,
All that could bliss or pleasure find—
From all—where aid I could bestow
To those who pain or suffering know,
In the rich treasure seemed to flow.
Treasure?—yes, treasure most refined,
Joy to the heart—balm to the mind,
That bade the throb of sorrow cease,
And filled my soul with hope and peace.
Learn but of everything below
To shun the joy, relieve the woe;
Then shall the simplest scene have power
To give to thee a pleasant hour;
All that thou see'st of good be thine,
For thee Earth's fairest beauties shine;
And to the realms of endless day
Thou this rich treasure may'st convey,
Where all may join, crowned with success,
In one vast Bank of Happiness.

Mrs. Henry Rolls.

A VEGETABLE WONDER.

At a meeting of the Botanical Society of London, held on the 7th of September last, the following communication was read from Mr. R. H. Schomburgh, a Corresponding Member of the Royal Geographical Society of London, dated New Amsterdam, Berbice, May 11th, 1837, on a new genus allied to the Water Lily, named "*Victoria Regina*," by permission of Her Majesty. The paper was accompanied by magnificent drawings of the plant, one-half the natural size.

It was on the 1st of January this year, while contending with the difficulties nature opposed in different forms to our progress up the river Berbice (in British Guiana), that we arrived at a point where the river expanded and formed a currentless basin. Some object on the southern extremity of this basin attracted my attention; it was impossible to form any idea what it could be, and animating the crew to increase the rate of paddling, shortly afterwards we were opposite the object which had raised my curiosity, *A Vegetable Wonder!* All calamities were forgotten, I felt as a botanist, and felt myself rewarded.

A gigantic leaf, from five to six feet in diameter, salver shaped, with a broad rim of a light green above, and a vivid crimson below, resting upon the water. Quite in character with the wonderful leaf was the luxuriant flower, consisting of many hundred petals passing in alternate tints from pure white to rose and pink. The smooth water was covered with them, and I rowed from one to another, and observed always something new to admire. The leaf on its surface is of a bright green, in form almost orbiculate, with this exception opposite its axis, where it is slightly bent in: its diameter measured from five to six feet. Around the margin extended a rim about three to five inches high; on the inside light green, like the surface of the leaf; on the outside like the leaf's lower part, of a bright crimson. The stem of the flower is an inch thick near the calyx, and is studded with sharp elastic prickles, about three quarters of an inch in length. The calyx is four-leaved, each upwards of seven inches in length and three in breadth at the base; they are thick, white inside, reddish brown and prickly outside. The diameter of the calyx is twelve to thirteen inches; on it rests the magnificent flower, which, when fully developed, covers completely the calyx with its hundred petals. When it first opens it is white, with pink in the middle, which spreads over the whole flower the more it advances in age, and it is generally found the next day of a pink colour. As if to enhance its beauty, it is sweet-scented. Like others of its tribe, it possesses a fleshy disk, and petals and stamens pass gradually into each other, and many petaloid leaves may be observed which have vestiges of an anther. We met them hereafter frequently, and the higher we advanced the more gigantic they became. We measured a leaf which was six feet five inches in diameter; its rim five and a half inches high, and the flower across fifteen inches. The flower is much injured by a beetle (*Thrincius* species), which destroys the inner part. We have counted from twenty to thirty in one flower.

The universal practice of knitting is not confined to the fair sex in Germany. I have been told, that further north and in the electorate of Hesse, the men, during the long Winter evenings, turn their spaces into knitting needles, and ply them over the cottage-fire, while the women spin. "This shocks your English prejudices, does it not?" said my informant, "but is it not much better than spending the dusk hours in the beer-house?" After all, prejudice apart, why may not a man make stockings as well as shoes?
—*Summer in Germany.*

Let us not pretend to rest in a naked contemplation of the great truths of the Gospel; they are revealed for nobler purposes, and intended to enforce the duty of obedience. It is to no purpose that we maintain the orthodoxy of our faith, as to the deep points of our religion, if we still promote heresy in our practice, and by our actions disgrace our belief.—Bishop Conybeare.

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